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U.S.-JAPAN COMPETITION IN INDUSTRIAL TRUCKS

Summary

The U.S. industrial-truck industry is floundering under the weight of the sharpest and longest shipment decline in perhaps a quarter-century. Demand at home and abroad for forklifts and motorized hand trucks like pallet and platform trucks has shrunk along with the slump in the world economy. Stiff competition from Japanese lift-truck manufacturers, which have captured a large share of the highest volume segment of the market with their reliable, low-priced light-duty machines, has added to U.S. makers' woes, as has the industry's substantial excess production capacity. These factors, plus the encroachment of new technologies, are forcing a retrenchment in the American industrial-truck industry.

World Slump Hits U.S. Makers

Like machine tool bookings, orders for forklifts and other lift trucks are extremely cyclical, varying by as large a multiple as four with changes in industrial production. Moreover, manufacturers in both industries use order backlogs to cushion production during valleys in the booking cycle. A fat backlog of unfilled orders from the 1972-73 economic boom sustained American lift-truck builders through the worst of the 1974-75 recession. In fact, U.S. industrial-truck shipments hit a then-record 103,833 units in 1974 before tumbling by more than a third over the next two years.

Orders for industrial trucks bounced back stronger than ever with the upswing in U.S. industrial activity in the late 1970s, in part because of the new emphasis of American business on productivity improvements and cost-saving measures. The substantial amount of production capacity added by domestic lift-truck manufacturers in response to the 1972-73 surge in bookings enabled them to avoid the delivery bottlenecks

that had sprung up during the earlier boom, and output rebounded sharply. By 1979 U.S. industrial-truck shipments reached an all-time high of 108,619 units, but the industry had to pay a steep price for the quick recovery.

When the American economy began to stumble after the 1979 oil crunch, lift-truck orders once again started to taper off. As the recession spread from the automotive and lumber industries to other major manufacturing customers like primary metal producers, fabricated metal product makers, paper manufacturers and converters, and processed food and beverage firms, and moved into the distribution field -- lumber and construction-material yards, industrial storage yards, trucking and public warehousing, freight yards, ports, harbors and airports, domestic demand for forklifts increasingly dried up. The slump quickly translated into a catastrophic shipment slide for the American industry, which had gone into the recession with a slimmed-down backlog of unfilled orders because of the new capacity put in operation in the mid- and late 1970s. In 1982, the third year of the downturn, U.S. producers shipped out only an estimated 52,000 lift trucks -- less than half of 1979's record level and the smallest volume since at least 1964.

Last year American industrial-truck manufacturers operated at one-third of capacity or below. These low utilization rates were a sign not only of depressed demand in the U.S. market but also of recessionary conditions in foreign markets, where major makers generate roughly two-fifths of their sales revenues, principally through onshore production. Business in Canada, the largest single export market for both parts and vehicles and the site of four American-owned plants, turned down in tandem with U.S. demand. The recession in lift trucks then hit Europe, a big export market, partly because 11 manufacturing facilities are located there, and Central and South America, which is important to U.S. makers as a production location (three wholly owned plants and two joint ventures) as well as an export destination.

For U.S. industry leader Clark Equipment Co., shrinking demand in the United States and abroad trimmed lift-truck sales from 1979's record level of $767 million to $552 million in 1981, a 28-percent drop, followed by a 19.7-percent contraction in January-September 1982. Total unit shipments were off by 26 percent in 1981, the result of a 27-percent decline in North American output, a 32-percent decrease in European production and a 1-percent dip in shipments from other overseas facilities. Number-two Hyster Co., which earns 90 percent-plus of its sales from industrial trucks, saw its sales drop 14.6 percent -- from an all-time-high $683 million in the year ending January 31, 1980 to $584 million in FY 1981 -- and then fall by an additional 27.3 percent in the nine months through October 1982. Its unit shipments decreased 19 percent in FY 1980 and another 11 percent in the next fiscal year; in the February-July 1982 period, volume was down a further 21 percent. Other full-line American lift-truck makers -- Eaton Corp., Caterpillar Tractor Co.'s Towmotor Corp. subsidiary and Allis-Chalmers Corp. -- were no more immune to the impact of the recession than their larger competitors.

Japanese Producers Stake Out Heart of Market

American lift-truck manufacturers have had to cope not only with the rippling effects of the recession but also with stiff Japanese competition in the United States and in third markets. For Japan's major forklift-truck makers -- number-one Toyota Motor Co., Ltd., Komatsu Forklift Co., Ltd., the second-largest producer and an affiliate of construction equipment giant Komatsu, Ltd., number-three Toyo Umpanki Co., Ltd. (TCM), Nissan Motor Co., Ltd., Mitsubishi Heavy Industries, Ltd. and its affiliate, Nippon Yusoki Co., Ltd. (NYK), exports have given some much-needed backbone to production in the face of lackluster demand at home.

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Japanese forklift production peaked at 87,107 trucks in 1974, a year after domestic shipments topped out, and then plunged 41.5 percent in 1975. Domestic business, dependent on the replacement market for as much as three-fifths of sales, remained in the doldrums, but output recovered steadily, braced by expanding exports. The old production record was broken in 1979 and a new one of 103,974 units was set in 1980, when shipments at home finally reached their former high.

By that time, though, overseas deliveries were accounting for just under half of total forklift output or 48,552 units, compared with one-third in 1974 (28,566 units). With domestic business going downhill in 1981, the scale tipped to exports, but the 50,941 forklifts shipped abroad that year did not prevent production from declining 10.5 percent to 93,060 units. In 1982, not even exports provided a buffer, as the deepening slump in world lift-truck demand forced Japanese makers to cut their output back to an estimated 76,000 units.

In expanding their overseas shipments, Japan's forklift manufacturers pursued a marketing strategy common to a number of other successful Japanese export industries: identifying a market segment not tapped by foreign makers and then supplying a high-quality, low-cost product. In industrial trucks, American makers had left themselves open at the low end of the product line -- inexpensive, no-frills trucks with a lifting capacity of 2,000 to 6,000 pounds for use at retail lumber stores, food warehouses and similar light-duty applications. Starting in the mid-1960s, therefore, Nissan (Datsun), Toyota and TCM began to develop a market in the United States for light-usage machines. By the late 1970s, the U.S. marketing units of Japan's major forklift producers, which then included NYK and Komatsu Forklift, had helped turn 3,000-to-5,000-pound cushion-tire lift trucks and 4,000-to-5,000-pound pneumatic-tire lift trucks into the highest volume segment of the American industrial-truck market.

Although Japanese forklift producers gained a foothold in the American lift-truck market by capitalizing on a major gap in U.S. makers' product lines, low prices are the key to their current market strength, importers and domestic manufacturers generally agree. They part company, though, on the exact source of the price edge. American builders, noting the price sensitivity of lift trucks, zero in on the yen's undervaluation. Some also point out that Japanese makers use automotive components in their forklifts rather than the costlier industrial-grade components used by American companies.

Importers focus on a different aspect of the cost structure, singling out the automated production processes of Japanese forklift makers and the economies of scale that higher operating rates afford them. Nissan and Toyota, which vie for market leadership among the Japanese imports, also cite the spillover effects of their expertise in automotive manufacturing. Industry analysts add as well that Japanese companies have not gone in for "bells and whistles" on their lift trucks like American makers have.

Even in today's depressed U.S. sales environment, Japanese industrial-truck manufacturers argue, low prices are not the whole story behind their market inroads, which extend to perhaps 20 percent of the market for engine-powered rider lift trucks and about 5 percent of the electric rider market. Quality tops importers' lists of non-price factors, followed closely by reliability and low operating and maintenance costs. Continued product improvements in terms of fuel economy, performance, drivability and comfort are also cited as major selling points.

Japanese forklift makers have employed the same sales strategy to win a significant slice of the lift-truck business in Europe, which rivals the United States in most years as an export market for the industry. Their reported 20-percent-plus share of the European market has partly come at the expense of American companies, both as

exporters from the United States and in-country producers. German, French and British manufacturers have apparently been the main losers, though. As their sales positions have deteriorated, the chorus of complaints about Japanese inroads has risen, culminating last month in a formal request by the European Community for "voluntary" limits on Japan's forklift shipments.

American Companies Adapt to Shrinking Market

While Clark, Hyster and other American lift-truck makers were projecting a downturn in the cyclical industrial truck business as early as the beginning of 1980, they were unprepared for the severity of the slide or its duration. Tighter inventory controls and manufacturing and overhead cost-containment programs, the measures initially adopted to cope with the recession, were increasingly accompanied by employee furloughs and layoffs. As lift-truck demand continued to shrivel up in the United States, American firms, which compete in good years through a comparison of specifications and performance, resorted to selective price-cutting. By 1982, they were slugging it out with each other and Japanese importers with across-the-board discounts; some makers were reportedly participating as well in "deep discounting" -- selling below the market and sometimes even below cost -- to capture what little business there was.

Slumping world demand on top of excess production capacity and increased Japanese competition soon forced company executives to map out more drastic strategies than inventory reductions, layoffs and similar cost-cutting measures. With its lift-truck operations in the red in 1982 and its construction equipment and axles and transmissions businesses equally hard hit by the recession, industry leader Clark unveiled a plan last fall to hammer down the firm's manufacturing breakeven point from overall sales of $1,425 million to $925 million. Central to this program is plant consolidation. In lift trucks, the company expects to reduce operating costs 41 percent by phasing out its Battle Creek, Michigan facility this year and integrating North American production at newer, more efficient factories in Kentucky and Ontario, Canada, as well as by merging its two West German plants. Clark also hopes to lower material and components costs for its industrial trucks by 35 percent through product design changes and worldwide sourcing.

Within the year, the top U.S. lift-truck manufacturer is also expected to introduce a low-priced, light-duty lift-truck series designed specifically to compete head to head with Japanese products. This is a marketing strategy Hyster has successfully pursued. Since mid-1981, the number-two American maker, known for its top-of-the-line machines, has been turning out the 4,000-to-6,000-pound-capacity Challenger 40-60 XL series of lift trucks at a highly automated factory in Northern Ireland. In the first year on the market, Hyster officials conservatively estimate, the Challenger XL captured 10 percent of low-end world lift-truck sales.

Hyster's state-of-the-art Northern Ireland plant is the first part of a game plan to improve international cost competitiveness. The second part involves a thorough analysis of the company's 14 other worldwide manufacturing operations. Earlier this month, Hyster announced that its Portland, Oregon plant, the oldest of seven U.S. facilities, would be closed, a casualty of the drive to trim manufacturing costs. Other domestic lift-truck facilities could also be earmarked for closure or downsizing since the firm, normally the most profitable American industrial-truck maker, broke even at best in the year ending January 31.

Earthmoving equipment leader Caterpillar, which last year had its largest loss since 1932, has also announced a cutback in capacity. Slated for closure is the main Towmotor lift-truck facility, located in Mentor, Ohio. Its output will be transferred to a plant in

Oregon and another in England. Looking further down the road, Caterpillar is negotiating with a foreign company, thought to be the Daewoo Group of Korea, to make some of its lift trucks.

Faced with the prospect of two back-to-back annual net losses, Allis-Chalmers, primarily a maker of process equipment and agricultural machinery, moved in 1982 to pare its lift-truck manufacturing capacity. A plant in Columbia, South Carolina was phased out, as was another in France, leaving the company with lift-truck facilities in Illinois and Quebec, Canada. Like other industrial-truck makers, Allis-Chalmers has also stepped up worldwide sourcing, buying the drive line for certain lift-truck models from Mitsubishi Heavy Industries (which entered the U.S. market with its own lift trucks in 1980) and a narrow-aisle electric rider from NYK.

Of the five major U.S. industrial-truck manufacturers, Eaton has been the fastest to react to changing market conditions. It has also adopted the most radical strategic plan. In 1981, the diversified maker of electrical and electronic products and vehicle components led the way on plant consolidation, shifting lift-truck production from its Philadelphia plant, now 95 percent phased out, to three newer facilities in the South. Subsequently, company executives outlined a long-range plan to transfer the entire output of newly developed engine-powered lift trucks to Japan, where Eaton has had an equally owned joint venture with Sumitomo Heavy Industries, Ltd. since 1979. This proposal is a logical extension of the firm's current relationship with Sumitomo Yale Co., Ltd., since the Japanese company supplies Eaton with chassis for its smallest engine-powered lift trucks and for some mid-range and heavyweight models.

What really sets Eaton apart from its American competitors, though, is a recently announced plan to spin off lift-truck operations into a separate company. The new, $200-million business, to be 19 percent Eaton-owned, will run Eaton's three U.S. plants and a British facility; it will also take over the company's interest in Sumitomo Yale. A West German factory will be sold to a European concern, but that buyer will acquire an equity stake in the new venture along with other investors, possibly including Sumitomo Heavy Industries.

Eaton, it can be argued, has seen the writing on the wall in lift trucks. A mature business before the current slump, lift trucks offer little hope for strong growth, even with an economic recovery. Many lift-truck customers are in shrinking smokestack industries like autos and steel. Builders also face continuing encroachment by alternative materials-handling technologies, particularly automated storage and retrieval systems (AS/RS), which provide greater productivity and cost benefits than forklifts.

American industrial-truck manufacturers cannot be faulted for ignoring technological trends in the materials-handling field. Through Eaton-Kenway, Eaton has become the U.S. leader in automated storage and retrieval systems. Clark also has a strong position in this rapidly growing business. Allis-Chalmers is represented as well. In addition, Hyster, which signed an agreement last May with the Republic of Ireland for a $100-million facility to produce automated handling equipment, is planning a major thrust into AS/RS.

While analysts give American industrial-truck makers high marks for moving aggressively into the automated materials-handling field, there is at least one drawback to this strategy. Japanese forklift producers, having also come to the conclusion that lift trucks are a low-growth business, are moving equally fast to become integrated materials-handling-equipment producers.

For further information, contact Susan MacKnight.

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Table 1: U.S. Shipments of Industrial Trucks, 1978-82

(value in millions of dollars, quantity in units)

	1978	1979	1980	1981	Nine Months 1981	Nine Months 1982
Value						
Total	$ 2,425	$ 2,808	$ 2,532	$ 2,405*	n.a.	n.a.
Quantity						
Motorized Hand Trucks	20,994	24,183	20,495	18,734	14,008	11,469
Rider-Type Electric Lift Trucks	25,119	28,654	24,110	19,784	14,272	12,367
Rider-Type Engine-Powered Lift Trucks and Tractors	51,986	55,782	39,448	31,885	24,185	15,794
Total	98,099	108,619	84,053	70,403	52,465	39,630

*Estimated

Source: U.S. Department of Commerce, U.S. Industrial Outlook 1983 (value data); Industrial Truck Association as reported in U.S. Department of Commerce, Survey of Current Business (quantity data)

Table 2: Total U.S. Exports of Industrial Trucks, 1978-82

(value in thousands of dollars, quantity in units)

	1978	1979	1980	1981	Nine Months 1981	Nine Months 1982
Value						
Walkie-Type Lift Trucks	$ 6,118	$ 6,761	$ 7,080	$ 7,381	$ 5,966	$ 4,250
Rider-Type Electric Lift Trucks	34,948	35,245	49,521	53,595	39,032	29,894
Rider-Type Gas-Powered Lift Trucks	74,952	82,368	93,973	78,825	61,754	37,152
Rider-Type Diesel-Powered Lift Trucks and Tractors	51,579	49,139	81,918	97,187	77,034	37,957
Parts	140,915	162,992	205,282	216,008	162,557	133,955
Total	308,512	336,505	437,774	452,996	346,343	243,207
Quantity						
Walkie-Type Lift Trucks	2,676	1,692	1,685	1,432	1,159	796
Rider-Type Electric Lift Trucks	4,255	3,393	4,285	3,601	2,638	2,323
Rider-Type Gas-Powered Lift Trucks	4,484	4,466	4,597	3,411	2,743	1,675
Rider-Type Diesel-Powered Lift Trucks and Tractors	2,332	2,295	3,300	3,610	2,932	1,652
Total	13,747	11,846	13,867	12,054	9,472	6,446

Source: U.S. Department of Commerce, U.S. Exports (FT 410)

Table 3A: Total U.S. Imports of Industrial Trucks, 1978-82

(value in thousands of dollars, quantity in units)

	1978	1979	1980	1981	Nine Months 1981	Nine Months 1982
Value						
Walkie-Type Lift Trucks				$ 2,889	$ 2,271	$ 2,992
Rider-Type Electric Lift Trucks				13,372	9,932	8,417
Rider-Type Gas-Powered Lift Trucks	$115,399	$137,486	$102,658	89,861	64,778	58,463
Rider-Type Diesel-Powered Lift Trucks				41,153	31,522	23,239
Self-Propelled Work Trucks				4,487	3,354	3,949
Parts	39,084	46,010	37,581	40,686	28,608	26,785
Total	154,483	183,496	140,239	192,448	140,465	123,845
Quantity						
Walkie-Type Lift Trucks				526	435	777
Rider-Type Electric Lift Trucks				1,480	1,072	944
Rider-Type Gas-Powered Lift Trucks	17,301	18,412	13,470	11,107	8,027	7,097
Rider-Type Diesel-Powered Lift Trucks				4,417	3,366	2,113
Self-Propelled Work Trucks				493	375	357
Total	17,301	18,412	13,470	18,023	13,275	11,288

Table 38: U.S. Imports of Industrial Trucks from Japan, 1978-82

(value in thousands of dollars; quantity in units)

	1978	1979	1980	1981	Nine Months 1981	Nine Months 1982
Value						
Walkie-Type Lift Trucks				$ 408	$ 408	$ 6
Rider-Type Electric Lift Trucks				7,202	4,860	4,038
Rider-Type Gas-Powered Lift Trucks	$90,796	$102,909	$72,401	72,705	52,468	41,429
Rider-Type Diesel-Powered Lift-Trucks				35,359	26,992	14,453
Self-Propelled Work Trucks				1,877	1,486	406
Parts	7,568	8,026	7,283	8,861	6,176	5,851
Total	98,364	110,935	79,684	126,412	92,391	66,182
Quantity						
Walkie-Type Lift Trucks				50	50	1
Rider-Type Electric Lift Trucks				858	603	473
Rider-Type Gas-Powered Lift Trucks	12,658	14,357	10,576	9,643	6,988	5,659
Rider-Type Diesel-Powered Lift Trucks				4,195	3,240	1,613
Self-Propelled Work Trucks				309	249	45
Total	12,658	14,357	10,576	15,055	11,130	7,791

Source: U.S. Department of Commerce, U.S. Imports for Consumption and General Imports (FT 246)

Table 4: Japan's Production of Industrial Trucks, 1978-82

(value in thousands of dollars*; quantity in units)

	1978	1979	1980	1981	Nine Months 1981	Nine Months 1982
Value						
Forklifts	$609,813	$683,654	$821,258	$836,198	n.a.	n.a.
Electric Forklifts	128,089	149,466	177,022	178,412	n.a.	n.a.
Engine-Powered Forklifts	481,724	534,188	644,236	657,785	n.a.	n.a.
Pallet Trucks	1,839	3,359	2,805	2,557	n.a.	n.a.
Platform Trucks	5,517	11,025	9,152	9,422	n.a.	n.a.
Straddle Carriers	5,118	4,057	9,019	4,045	n.a.	n.a.
Other Industrial Trucks	19,773	26,609	37,113	45,674	n.a.	n.a.
Total	642,060	728,704	879,347	897,896	n.a.	n.a.
Quantity						
Forklifts	77,868	93,374	103,974	93,060	72,638	57,496
Electric Forklifts	13,505	16,886	19,951	18,492	n.a.	n.a.
Engine-Powered Forklifts	64,363	76,488	84,023	74,568	n.a.	n.a.
Pallet Trucks	601	925	917	912	n.a.	n.a.
Platform Trucks	1,260	3,650	2,306	2,317	n.a.	n.a.
Straddle Carriers	21	16	48	13	n.a.	n.a.
Other Industrial Trucks	4,669	6,704	8,611	8,021	n.a.	n.a.
Total	84,419	104,669	115,856	104,323	n.a.	n.a.

*The following average annual exchange rates, which reflect the mid-point on the Tokyo spot foreign exchange market, were used to convert the yen production figures: 1978, ¥210.44; 1979, ¥219.14; 1980, ¥226.74; and 1981, ¥220.54.

Source: Japan, Ministry of International Trade and Industry, Yearbook of Machinery Statistics

Table 5A: Japan's Total Exports of Industrial Trucks, 1978-82

(value in thousands of dollars*; quantity in units)

	1978	1979	1980	1981	Nine Months 1981	Nine Months 1982
Value						
Forklift Trucks	$296,061	$329,542	$411,469	$475,751	$375,759	$268,054
Other Work Trucks	5,566	6,490	7,239	11,564	6,182	6,547
Tractors	1,301	1,248	2,332	4,078	2,948	2,735
Parts	29,855	31,295	36,919	42,713	33,178	27,120
Total	332,784	368,576	457,960	534,106	418,067	304,456
Quantity						
Forklift Trucks	37,148	40,651	48,552	50,941	39,846	31,330
Other Work Trucks	697	616	1,037	1,220	810	804
Tractors	189	176	236	358	248	254
Total	38,034	41,443	49,825	52,519	40,904	32,388

Table 5B: Japan's Exports of Industrial Trucks to the United States, 1978-82

(value in thousands of dollars*; quantity in units)

	1978	1979	1980	1981	Nine Months 1981	Nine Months 1982
Value						
Forklift Trucks	$100,329	$ 98,139	$76,110	$124,131	$93,356	$52,454
Other Work Trucks	59	20	14	71	71	57
Tractors	0	0	0	6	0	65
Parts	6,684	6,559	5,847	6,456	4,765	3,488
Total	107,072	104,718	81,971	130,663	98,192	56,064
Quantity						
Forklift Trucks	14,442	13,519	10,656	15,569	11,737	7,165
Other Work Trucks	11	4	6	51	51	17
Tractors	0	0	0	1	0	8
Total	14,453	13,523	10,662	15,621	11,788	7,190

*The following average exchange rates, calculated by the Ministry of Finance, were used to convert the yen export figures: 1978, ¥212.18; 1979, ¥217.47; 1980, ¥227.67; 1981, ¥219.90; January-September 1981, ¥217.94; and January-September 1982, ¥243.39.

Source: Japan, Ministry of Finance, Japan Exports and Imports: Commodity by Country

Table 6: Japan's Total Imports of Industrial Trucks, 1978-82

(value in thousands of dollars*; quantity in units)

	1978	1979	1980	1981	Nine Months 1981	Nine Months 1982
Value						
Forklift Trucks	$ 336	$ 616	$ 667	$1,689	$1,606	$ 214
Other Work Trucks and Tractors	291	197	3,979	3,550	1,190	256
Parts	674	786	907	2,625	1,912	1,093
Total	1,301	1,599	5,552	7,864	4,708	1,563
Quantity						
Forklift Trucks	21	25	53	76	71	35
Other Work Trucks and Tractors	45	22	25	30	22	14
Total	66	47	78	106	93	49

*The following average exchange rates, calculated by the Ministry of Finance, were used to convert the yen import figures: 1978, ¥212.17; 1979, ¥217.46; 1980, ¥227.85; 1981, ¥219.94; January-September 1981, ¥217.94; and January-September 1982, ¥243.15.

Source: Japan, Ministry of Finance, Japan Exports and Imports: Commodity by Country